

REMARKS/ARGUMENTS

The final office action of September 8, 2003 has been carefully reviewed and these remarks are responsive thereto. Reconsideration and allowance of the instant application are respectfully requested. Claim 20 has been amended to clarify that the carriers are removable and that the object holders have vertical shafts. Support for these amendments are found, for example, on page 8, lines 32-33, and page 9, lines 12-14. No new matter or issues are raised by these amendments. Moreover, it is believed the amendments place the application in condition for allowance.

The indication that claims 26 and 34-38 contain allowable subject matter is appreciated.

Claims 20 and 31-33 stand rejected under 35 USC 102(b) over Beardow. Beardow is directed to the treatment of compact discs. Specifically, Beardow discloses an apparatus for applying a metal coat on compact discs by sputtering. Beardow also describes a transport device, which extends through the lock and the PVD device.

The Beardow apparatus is only suitable for one type of object, compact discs, which have a thickness of one or two millimeters, but the thickness of compact discs is small relative to the sizes in the other directions. The claimed invention on the other hand, allows for objects of widely varying shapes and forms. That is, the claimed invention is suitable for three-dimensional objects and thus is suitable for coating a wide variety of objects, such as prizes for sport events, car parts, tops for bottles for perfumeries, etc.

Beardow carries the compact discs on chucks 410, which have a clamping function. Moreover, Beardow coats only one side of compact disc. In contrast, the claimed invention contains carriers having vertical shafts on which the objects to be treated are carried. The objects to be coated are maintained on the carriers through gravity. There is simply no need to provide chucks or any other clamping means. Moreover, all (visible) sides of the objects are coated in accordance with the claimed invention. The claimed apparatus handles 3-dimensional objects. Beardow's apparatus cannot handle such 3-dimensional objects.

In addition, the carriers are removable from the transport apparatus. There are two reasons for this. First, the locks were constructed to handle the carriers with the objects to be coated while the carriers are separated from the transport mechanism. Second, the carriers can be removed from the transport mechanism during the loading/unloading of the carriers. Especially in the case of 3-dimensional objects, it takes a considerable amount of time for a person to place the objects on the vertical shafts of the carrier. The same applies when removing the objects from the carrier. By using carriers that can be removed from the transport mechanism, the cycle time for the loading/unloading is independent from the cycle time of the process in the apparatus.

Beardow does not teach the removable carriers having vertical shafts in accordance with the instant claims. Beardow does not anticipate the claimed apparatus and withdrawal of the instant rejection is requested.

Claims 24 and 25 stand rejected under 35 USC 103(a) over Beardow in view of Hammond et al. Claims 24 and 25 depend from claim 20. Beardow does not teach or suggest the apparatus of claim 20 for the reasons identified above.

Hammond does not remedy the defects of Beardow. Hammond discloses an apparatus containing buffer units. In Hammond, the entrance and exit are spatially separated, which allows the space for buffer units. In contrast, when the entrance and exit are combined, as in the claimed apparatus, space problems are created. The claimed apparatus is directed to a solution for such space problems when the entrance and exit are combined.

Moreover, the function of the buffer is not comparable with that of a lock, which protects the atmosphere inside the processing chamber, as suggested in the Office Action, but rather a buffer to absorb variations in the supply and removal of the carriers with the objects to be treated.

One skilled in the art would not have considered Hammond to modify Beardow to arrive at the apparatus of the instant claims. Withdrawal of this rejection is requested.

Claim 27 stands rejected over Beardow in view of Connell et al. Claim 27 depends from claim 20. Beardow does not teach or suggest the apparatus of claim 20 for the reasons identified above.

Connell is applied as teaching an ion air gun. An ion air gun is similar, but not the same as a blower. It is within the skill of the art that before coating, the objects should be clean and free of dust. Cornell teaches that the dust is removed through ion sputtering, while the present claims blows away the dust. The blowing away of the dust is one of the processing steps in a preferred embodiment before the real processing, that is the applying of a primer before the coating, is executed.

Even if the ion air gun is used in Beardow, one skilled in the art does not arrive at the claimed apparatus. Connell does not remedy the defects of Beardow. Withdrawal of this rejection is requested.

Claims 28-30 stand rejected over Beardow in view of Skolnick. Claims 28-30 depend from claim 20. Beardow does not teach or suggest the apparatus of claim 20 for the reasons identified above.

Skolnick is directed to applying UV-curable lacquer on a light reflective material. Skolnick does not teach or suggest the apparatus of the instant claims. Even if Beardow is modified to apply a UV-curable lacquer as described in Skolnick, one skilled in the art does not arrive at the claimed apparatus. Skolnick does not remedy the defects of Beardow. Withdrawal of this rejection is requested.

CONCLUSION

It is believed that no fee is required for this submission. If any fees are required or if an overpayment is made, the Commissioner is authorized to debit or credit our Deposit Account No. 19-0733, accordingly.


All rejections having been addressed, applicant respectfully submits that the instant application is in condition for allowance, and respectfully solicits prompt notification of the same.

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Respectfully submitted,
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